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Observations on Chronic Mastitis *

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WINCHESTER

I make no apology for introducing this rather commonplace subject, or perhaps I should say re-introducing it since I have already expressed some of my views in *The Veterinary Record* a few years ago. I feel justified, however, since this disease still remains one of the major problems facing us to-day. Nevertheless, before proceeding I feel my choice calls for some explanation since some of you may be wondering why I as a "whole-time" man have the temerity to discuss a disease which is possibly more in the sphere of a private practitioner. Admittedly I have no practical experience of modern treatments for chronic mastitis but in this disease, as in all others, the chief concerns are cause and diagnosis. The former is the basis for my theme this afternoon, and regarding the latter I can claim some considerable experience especially from a clinical point of view.

In the course of my duties as a whole-time veterinary inspector it has been my fortune or misfortune to have carried out as many clinical examinations of dairy herds as most people, and that in an intensive dairying area. Such work is often regarded as being rather monotonous but, like other routine duties, is interesting in direct proportion to the amount of interest brought to it. Apart from being one of the most difficult and responsible tasks we are called upon to perform, although perhaps not generally looked upon as such, I have always felt that when so engaged the veterinary inspector is in a unique position. In contradistinction to the private practitioner he is then called upon to examine animals in health as well as disease, a very important matter as far as the udder is concerned. In addition, he usually covers a much wider field, and if he cares to keep his eyes and ears open, and ask judicious questions, he can acquire a wealth of detailed information which would not otherwise easily be obtained.

Personally, I have been specially interested in tuberculosis, Johne's disease, and contagious abortion, but particularly chronic mastitis. Presumably this is quite a logical sequel in view of the large number of udders I have had to handle, and the difficulties which arise in differential diagnosis between tuberculosis of this organ and chronic mastitis.

Before progressing very far in the art of herd inspection careful examination will bring home all too forcibly the appalling losses caused by this disease. Incidentally, in this connection I am of opinion that any assessment of these losses has been very conservative. Apart from this general picture, however, it soon becomes evident that to examine some herds for tuberculosis of the udder is a relatively easy matter whereas in others it is extremely difficult. This difference is simply due to the incidence of chronic mastitis. The orthodox explanation of course is that streptococcal infection is present in the one case but not in the other.

In the light of my experience, however, I could never bring myself to believe that this is the complete answer. Like Omar Khayyam "Myself when young did eagerly frequent Doctor and Saint and heard great argument about it and about but evermore came out by the same door as in I went."

Briefly, the reasons for my scepticism are twofold. Firstly, with all due respect to bacteriology and what it has accomplished, I have a grave suspicion, taking the broad view, that it does not supply the fundamental answers in relation to disease in general. I feel that underneath the veneer of bacteriology there are underlying principles which are primarily responsible for disease conditions. In some cases these are obvious but in most they are obscure and may lie in such spheres as animal husbandry, biochemistry or even genetics. Be that as it may, I prefer to regard pathological bacteria simply as implements in the hands of nature to create disease in order to satisfy some means towards her own ends, in many cases to restore a proper balance. Thus if we could decipher the aims of nature we would have the correct and fundamental causes of disease. Looked at in this light the whole question of disease becomes an absorbing and intricate problem.

Secondly, from the wealth of literature dealing with chronic mastitis certain findings give much food for thought. For example:—

1. Difficulty in transmitting the disease artificially.
2. *S. agalactiae* can be found in perfectly normal udders.
3. *S. agalactiae* may be absent in clinically affected quarters.
4. The infusion of a few ounces or even a few c.c. of a curative agent gives as good results as much larger amounts.
5. Presence or absence of good hygiene appears to have no bearing on the incidence of disease.

To-day the dairying industry is carrying a tremendous load in the shape of disease, and while farmers could do a great deal more than they are doing to relieve that burden the fact remains that it is essentially the penalty being paid for present-day methods. I once heard a farmer say that if you farm with nature she will help you, but if you farm against her she will play the devil with you. The truth of these two statements cannot be over-emphasised but unfortunately through force of circumstances we are being compelled more and more to follow the latter policy and consequently the stage is set for a constant struggle against nature's efforts to play the devil with us in the shape of disease. And in this connection I feel that nature has a peculiar advantage over us in that we are always handicapped by being one step behind. By that I mean that we first create an artificial state, in time nature makes manifest her reaction, and lastly we must counter that reaction.

To my mind chronic mastitis is no exception in this general scheme of affairs which I envisage, and I consider that too much emphasis has been placed on bacteriology to the exclusion of other possible causes. In my view this disease is caused primarily by injury to the teat, and infection with *S. agalactiae* when it does occur is a secondary consideration.

I have not arrived at this conclusion without very serious thought and careful observation, and I have my own experience as a milker in days gone by as a practical background. In coming to this conclusion my deductions were somewhat as follows. In nature the milk is drawn off by a combination of vacuum and slight pressure for a limited period which is determined by the dam, and no untoward results appear even although varying amounts of milk are left in the udder. In artificial milking the kneaving practised in hand milking, or the pulsations of the milking machine are very near approaches to nature and equally free from harm if properly practised alone, and the cow is taught to milk quickly. The trouble begins when stripping is employed although I believe that not all stripping is equally harmful. Less harm results from the stripping which an efficient milker practises as a rest from kneaving while the flow of milk is on provided the teat is held in the apex of the angle formed by the thumb and forefinger when held straight. By so doing no great pressure can be exerted on the teat and no other form of stripping should be allowed—and that only when the influence of the hormones governing the let down of milk is still active.

It is very evident, however, that hand milking is rapidly becoming a lost art, and in practice a very different state of affairs pertains from what I have tried to describe. While I believe that all forms of stripping are undesirable the worst form is that which takes place at the end of milking when the hormone effect is waning, the teat is more flaccid, and is not full of milk under pressure. It is at this stage that most stripping is practised. In fact it has been very definitely advocated even by the veterinary profession in order to extract the last drop of milk.

If you watch milkers when stripping you will find an extremely small proportion grip the teat correctly as I have indicated. Instead it will be found that the teat is first nipped at the same part between the points of the thumb and the forefinger, or more commonly, between the point of the thumb and the first or second joint of the forefinger, and then stretched rigorously to its full length. When thus handled by strong fingers, especially of men, it is not difficult to envisage what must happen to the delicate structure of the teat duct. In fact, considering the way one sees the cow's teat man-handled in the process of stripping the wonder to me is that more damage is not inflicted. A piece of rubber tubing would not stand such treatment long.

In this connection it is interesting to note that chronic mastitis is very often non-existent in herds which are milked by the farmer's wife and his daughters simply because the teats are handled more

* Presented to the Southern Counties Division, N.V.M.A., at Winchester, on November 28th, 1947.

gently than by men. It is also true to say that having seen the milkers at work one has a fair idea what will be found when examining the udders. The converse is also true, that having examined the udders a fairly accurate estimate can be made of the efficiency of the milkers. One often hears a farmer remark that the incidence of disease has been greatly reduced since he changed his cowman. Such statements, I think, are true, not because the new man does or does not do certain things according to accepted views on chronic mastitis, but simply because he is a better milker.

Further, just before the fingers slip off the point of the teat in the course of stripping and especially if much pressure is exerted, it will be noticed that not only is the sphincter stretched to its utmost capacity but that the end of the teat duct itself is partially everted. Such treatment must inevitably cause small tears, even although microscopic, and apart from chronic mastitis, may have a bearing on "black spot."

An equally troublesome complaint affecting the teats is the fibrous tumours or rings which occur in the duct at the junction of the upper and middle third. These are invariably found about the place which corresponds to the point where the teat is first gripped or rather nipped in the process of stripping. I consider that this causes injury which is repeated twice daily if the same person is milking the cow, and nature in self defence lays down fibrous tissue. In this case, however, conformity of the teat may be a contributory factor.

It is a common opinion amongst dairy farmers that milking machines cause more chronic mastitis. If, as I suspect, injury is the true cause, it will be evident from what I have said that it is not the machines which are at fault but the stripping which takes place behind them—and this, mark you, at the very worst phase of the milking period. Nevertheless, in my opinion milking machines are not entirely free from blame if teat cups are allowed to crawl or if the teat liners are not properly stretched. In the first case the lower part of the milk cistern is sucked into the teat cup, resulting in injury at this point, and I suggest that it is often possible to distinguish clinically between chronic mastitis produced in this way as opposed to hand stripping.

Finally, not only do I consider stripping harmful but that it teaches the cow a bad habit which is difficult to break. In fact the stage is usually reached in older cows when they will not give all their milk without it. Thus milking becomes a long drawn-out affair and the vicious circle continues.

It would be unwise, however, to stop stripping in a badly infected herd without a very careful clinical examination as there would be a grave risk of mild cases becoming acute almost overnight if *S. agalactiae* is present. Cows, particularly old ones, which are habitually stripped tend to reserve milk for this purpose, and if this is not drawn off completely in the usual way the number of organisms it contains will give the bacteria a flying start as it were, and before the next milking period comes round may have increased to such an extent as to produce an acute condition.

On the other hand, I am convinced that if owners would prohibit stripping in the case of heifers when they enter the dairy herd and teach them to milk quickly, and thus gradually establish a properly trained herd, the incidence of chronic mastitis would be enormously reduced. I would not go so far as to say that it would be entirely eliminated, as there may be other forms of injury, but I consider these very secondary to those I have mentioned.

The ravages of chronic mastitis are well known and the amount of milk lost as a result must be colossal. I cannot suggest a figure but from my experience in the past the percentage of cows with perfectly normal udders is surprisingly low. Of course, not all abnormalities are due to chronic mastitis. In fact it would even appear from a clinical point of view as if the ordinary physiological process of continually producing large quantities of milk is capable of setting up fibrosis of the udder. Be that as it may, I consider that constriction of the teat sphincter not of hereditary origin, thickening of the teat duct, many cases of fibrosis of the milk cistern, atrophy of one or more quarters, what is often called a fleshy udder, loss of a quarter during the dry period with no constitutional disturbance, are all more or less stages of one and the same condition, call it chronic mastitis if you care.

With this in mind the question of milk recording becomes a difficult problem. I am certain that many high yielding cows are discarded as a result of low milk records because they are pathologically and not physiologically incapable of giving a better performance. With this in mind it is evident that while milk recording is good practice, its value in a herd where chronic mastitis is present must have definite limitations and results require careful interpretation. Consequently I feel that a cow which has a good record otherwise, should not be discarded because of a low milk yield without a very careful clinical examination. Even so, the veterinary surgeon would require to assess the relationship between any abnormality and its influence on milk yield—not an easy matter.

(*Concluded at foot of next column.*)

What I have said is a brief summary of my observations and deductions regarding chronic mastitis. I have found it an extremely fascinating study, and I venture to suggest that injury provides a simple answer to the various problems relating to this disease. I am quite well aware that in committing my views to paper I am liable to raise a hornet's nest about my ears, but I have at least given the subject enough careful thought and clinical study to feel justified in expressing them.

CLINICAL COMMUNICATIONS

Removal of a Dermoid from the Cornea

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Subject.—Dandie Dinmont, aged nine months. The left eye showed a dermoid growth about a quarter of an inch in diameter, commencing from the sclera towards the outer canthus and extending over the cornea. Several long hairs originated from it causing irritation and pain.

History.—The growth had been present when the pup was purchased at six weeks of age and thus had presumably been present at birth. Two previous attempts had been made to relieve the condition, firstly by clipping off the hair, and secondly by cauterisation.

Procedure.—Nembutal was given intravenously to the stage of deep anaesthesia. The growth was then examined carefully for any free end where excision could be commenced, but it became obvious that the growth itself was covered by conjunctiva. With one assistant tensing the eyelids back and another holding a magnifying lens and a torch in position, excision was commenced at the sclerotic margin. The growth was levered out with forceps as each small incision was made. Haemorrhage was profuse and continually obscured the field. An assistant applied an adrenalin swab between each incision. The growth extended deep into the sclera towards the ciliary body and the chief fear was perforation into the anterior chamber. On reaching the limbus the growth began to strip easily and cleanly from the underlying corneal layer, and there was no further haemorrhage. When incision was complete the conjunctiva could be seen through the lens abruptly ending at the periphery of the scar. The eye was then gently bathed with sterile water and a dressing of argent proteinate (P.D.) applied.

Recovery from the anaesthetic was uneventful. Precautions were taken against self-inflicted injury of the eye. The eye was bathed gently twice daily with a weak solution of chinosol followed by argent proteinate for five days. For a further week penicillin eye ointment was applied once daily.

Following operation the dog appeared to have no further pain from the eye. Ten days after the operation a pale blue scar was left on the cornea; there was no oedema of the remainder.

Conclusion.—The growth arises from the sclera and possibly from the ciliary body from which it derives its blood supply. It is therefore underneath the conjunctiva. A successful operation must depend on adequate anaesthesia and preparation for considerable haemorrhage.

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Prostigmin in the Treatment of Paraplegia in Dogs

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Case 1. *Paraplegia Following Trauma* (*Motor Car Accident*). Pomeranian dog, three and a half years old, in high spirits and good condition. Had been hit by a motor car six months before it was brought to my notice on January 3rd, 1946, having undergone treatment meanwhile in the hands of another veterinary surgeon. No abnormality could be detected in the vertebral column or pelvis on X-ray examination. It managed to drag itself easily along the floor, although unable to put any weight on the hind limbs.

Treatment was begun by administering collosal iodine injections and nerve tonics such as syrup of hypophosphites. No improvement whatever was seen afterwards and the dog ceased to receive my attention on March 18th.

On May 1st, however, the owner returned with the dog, which was still showing no improvement, and expressed a wish that, regardless of the unfavourable prognosis, any treatment likely to be of avail should be attempted.

Between May 1st and 21st, 1946, therefore, the dog had administered to it, twice weekly, six injections intramuscularly of prostigmin (Roche). The dose at each injection was the contents of one ampoule, namely, 1·1 c.c. of a 1:2,000 solution (*i.e.*, 0·05 mg. per c.c.).

Substantial improvement was observed to take place afterwards until on July 6th the dog was able to put a good deal of weight on the left and a slight amount of weight on the right hind limb.

A second course of six injections of prostigmin was then given in exactly the same manner as the first and all further treatment stopped.

In October, the owner returned to show me her dog which was then running behind her showing no impediment whatever or abnormality in its movements.

Case 2. *Paraplegia as a Sequel to Distemper*: Boxer dog, five months old, admitted to my clinic on May 21st, 1947, with nervous fits following a history of distemper. Prognosis in this case was deemed very unfavourable but the dog got better with treatment and the fits disappeared in ten days. The appetite afterwards became normal and the dog showed high spirits.

At the beginning of July, the dog commenced to show symptoms of lack of co-ordination in the hind legs and, by July 12th, definite paraplegia of the hind quarters was quite evident.

From July 16th onwards, prostigmin (Roche) was injected every other day until 15 doses were given when treatment had to be stopped as the dog was showing symptoms of excessive salivation and some intestinal disturbance. Nevertheless, the dog was now able to walk slowly on all four legs without help for very short distances, *e.g.*, about the distance of one room to another. Rest was given for a month, the animal showing gradual marked progress during that time.

A second, shorter, course was entered upon on August 18th when six injections were given on alternate days.

No further treatment was necessary as the dog rapidly regained power to walk.

Comment. It was found necessary to administer prostigmin intramuscularly because, when given in the form of tablets by the mouth, symptoms of nausea and vomiting were observed to develop in both of the above dogs.

Prostigmin, as is well known, has proved to be a most valuable recent therapeutic discovery for the treatment of myasthenia gravis in the human subject as well as some other conditions such as post-operative intestinal atony and urinary retention. Its action as a vagotonic substance, resembling physostigmine (eserine) in this respect, but less toxic, is said to be due to its ability to block "the activity of cholinesterase and thus permit acetylcholine to perform its normal physiologic function of carrying the nerve impulses across the synapses and myoneural junctions of the parasympathetic system."

Clinically, there are several conditions in dogs in which a substance possessing the above therapeutic properties might usefully be tried. As full details were kept of the progress of the above two cases and both ended in complete recovery, it has been thought fit to submit the present summary for publication.

Acknowledgment.—Help in writing the above communication was given by Dr. J. T. Edwards, late honorary Dean of the above Faculty.

CITY COMPANY OF FARMERS

The Company of Farmers has recently been formed on the lines of a City Guild. This is the outcome of the Red Cross Agriculture Fund, which brought farming interests together at the Mansion House and collected no less than £8,500,000 during the war. When the fund was wound up the chairman's committee continued to meet in the City, and it was resolved to found the Guild.

Now the farmers are to approach the Court of Aldermen with a view to securing a Livery of about 250. Lord Courthope is the Master of the Company, with Mr. W. Haddon and Mr. V. Parker as Wardens.

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FLEXOR TENOTOMY 100 YEARS AGO

In its feature "100 Years Ago," *The Glasgow Herald* of February 10th reprints from its columns of 1848 the following item, the central figure of which is the grandfather of Major Andrew Spreull, D.S.O., T.D., M.R.C.V.S., of Dundee: "On the 7th inst. Mr. James Spreull, veterinary surgeon, Milngavie, in presence of the medical practitioners and a number of gentlemen of the village, performed the painful operation of dividing both flexor tendons in the right fore leg of a horse, under the influence of chloroform, with complete success. From the time the medicine was applied only one minute and 30 seconds elapsed till the horse fell down and lay quite motionless, and in six minutes after the operation was completed."

NEW INSTRUMENTS AND APPLIANCES

A Device for use with the "Flutter Valve"

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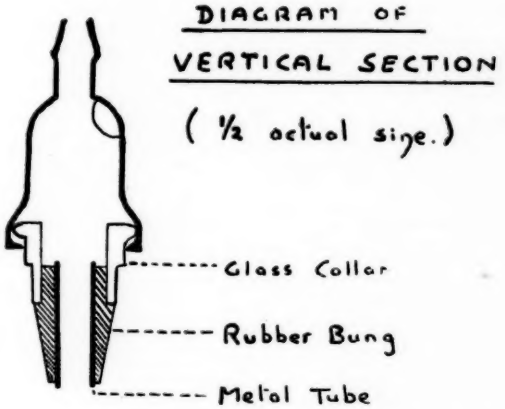
Stevenage, Herts.

One of the few disadvantages of the "flutter-valve" injection apparatus is that the solution for injection may be contaminated in stretching the rubber over the neck of the bottle. One has especially thought of this risk when using the "flutter-valve" for intramammary injections after handling a retained placenta or some other source of gross infection earlier in the day.

To minimise this risk, the device shown in the accompanying diagram has been made.



The whole apparatus is kept in a wide-mouthed glass jar, and it can be inserted into the neck of the injection bottle without handling any surface which comes into contact with the injection solution.

Association's Report on Diseases of Sheep

A query has been raised by a member of the Association upon the use of copper sulphate and nicotine sulphate in the treatment of sheep. The point has now been answered by those responsible for the compilation of the report, and it was thought that a note on the matter in *The Veterinary Record* would be useful for the information of members.

The question:—

Page 70, paragraph 6. 2. Copper Sulphate and Nicotine Sulphate. It is the experience of this practice that this prescription in the advised doses may be toxic to sheep (Devon closewool and Exmoor Horn). The concentration of nicotine sulphate recommended can kill sheep in this practice. It has been found that half the quantity of nicotine sulphate is safe for hogs and ewes, and even less must be used for lambs.

The answer:—

Doses of copper sulphate and nicotine sulphate given on page 70 of the "Report on Diseases of Farm Livestock: Section II—Diseases of Sheep" might occasionally prove toxic for sheep if the animals belonged to a small breed and were in poor condition. Furthermore, unless care were exercised in measuring the dose, excess might easily be given. It is strongly recommended that the dose be measured with a syringe marked in cubic centimetres to ensure accuracy. It must be realised that the efficacy of the treatment would diminish if sub-therapeutic doses were used.

Practitioners are strongly advised, therefore, to exercise care and discrimination in recommending the dose of copper sulphate and nicotine sulphate which should be used, consideration being given to such points as the size and condition of the sheep, accuracy in measuring the dose and care in its administration.

ABSTRACTS

[I—Effect of Sulphamethazine on the Coccidian Parasite, *Eimeria tenella*, of Chickens. Wehr, E. E., & Farr, M. M. (1947.) *Proc. Helminth. Soc. Wash.* **14**. 1-12; **II—Developmental Stages in the Life Cycle of *Eimeria tenella* Affected by Sulphamethazine Treatment.** Farr, M. M., & Wehr, E. E. (1947.) *Ibid.* **14**. 12-20.]

I.—Five hundred and eighty-eight chickens were experimentally infected with *Eimeria tenella* and treated with sulphamethazine in 1 per cent. concentration in the mash or in capsule form. When the drug was fed in the mash for seven consecutive days, beginning at the time of experimental infection or within three days of infection, the birds benefited materially. Little or no benefit was observed, however, when treatment was delayed to the fourth, fifth or sixth day after infection. If 1 per cent. sulphamethazine mash was fed for six or seven days, beginning one day before infection, the appearance of clinical symptoms of coccidiosis was delayed until four days after the drug was withdrawn. When the medicated mash was fed 45 hours after infection and discontinued 27 hours later considerable benefit to the chickens resulted. The effect of the drug was shown to be both coccidiostatic and coccidiocidal, depending upon the time treatment was initiated in the course of infection.

The feeding of 1 per cent. medicated mash for six and seven days is stated to give rise to necrotic lesions in the spleens of some of the birds.

II.—With material obtained from the caeca of 16 treated and 14 untreated birds used in the medication experiments, it was shown that sporozoites were not prevented from penetrating into the epithelium to continue their development. First generation schizonts were affected but not completely destroyed while first generation merozoites were resistant to the effects of sulphamethazine. The greater proportion of second generation schizonts with their merozoites were destroyed. Young gametocytes were either destroyed or damaged but the larger gametocytes were not affected. The reason why certain birds appear to benefit clinically more than others is attributed to the high degree of susceptibility of the second generation schizonts to sulphamethazine.

S. J.

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[A Note on the Fungoid Nature of Certain Internal Structures of Miescher's Sacs (*Sarcocystis*), etc. Spindler, L. A. (1947.) *Proc. Helminth. Soc. Wash.* **14**. 28-30.]

Histological examination of sections of Miescher's sacs lodged in the muscle tissue of a naturally infected sheep and wild duck revealed that the sacs contain a network of jointed hypha-like structures. The width of the hypha-like structures varied with their location, *i.e.*, those in the centre being wider than those at the periphery of the sac. In small sacs the hyphae were much more delicate in structure than those in large sacs. Rainey's corpuscles appear to be exogenous growths on the jointed hyphae. Corpuscles are stated to be capable of giving rise to other corpuscles in a manner similar to that in which coccidia are formed. Corpuscles are attached to hyphae and to each other by short pedicles. The hyphae exhibit staining reactions characteristic of fungi. It is concluded that Miescher's sacs are not individual parasites but are small mycetoma and that *Sarcocysts* belong to the fungi instead of to protozoa.

S. J.

The statistics of the Department of Agriculture for U.S.A. indicate that on January 1st, 1947, there were on farms, 7,251,000 horses and 2,773,000 mules of all ages. In addition, The Horse and Mule Association of America estimates that there are about 450,000 more horses and mules not on farms, a grand total of 10,474,000.

The report of the Bureau of the Census states that between 1940 and 1945 no material increase occurred in farms that were operated on mechanical equipment, and a little less than 10 per cent. of all farms were operated without any horses or mules. Almost 39 per cent. of all farms, or 2,272,556, were *operated solely with horses and mules*, and only 9·50 per cent., 554,675 farms, were wholly mechanised, having no horses or mules.—*Horse and Pony News.*

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Weekly Wisdom

Information is something one goes out to secure and puts away when found as you might do a piece of lead: ponderous, useful, unvibrating, dull; whereas knowledge comes to one—a chance acquisition, preserving in its repose a fine resonant quality.—Joseph Conrad.

REVIEW

[Bovine Tuberculosis: Including a Contrast with Human Tuberculosis. By John Francis, B.Sc., M.R.C.V.S. Published by Staples Press, Ltd., London. Pp. 220. Price 25s.]

The author has collected and collated an enormous amount of information regarding bovine tuberculosis, much of it from sources not readily available to busy veterinarians. The result is a book which gives in lucid style a clear picture of our present knowledge of bovine tuberculosis and also indicates the great amount of work yet to be done to increase our knowledge of various aspects of the disease.

In his introduction the author points out that the conclusions arrived at are not original but selected as most reasonable after careful sifting of the evidence. Conflicting evidence is not suppressed.

The history and early spread of tuberculosis in cattle is traced and the disease position in Great Britain is considered in detail. After study of the available evidence, Francis considers that the incidence of tuberculosis in dairy cows is probably between 30 and 35 per cent.; that 20 per cent. of all cattle in England are tuberculous, 7·5 per cent. in Wales, 14 per cent. in Scotland and 17 to 18 per cent. in Great Britain—a refreshing change from the usual statement that 40 per cent. of cattle are reactors.

Possibly the most interesting section in the book is that dealing with "Pathogenesis." In this the disease process in cattle is discussed in its various aspects and compared and contrasted with that in man. The great importance of the respiratory route of infection in bovines as compared with the alimentary route is stressed and the reader is reminded that while lung lesions in man frequently heal this seldom or never occurs in bovines and therefore all reacting cattle must be regarded as infective. The section includes a carefully selected series of protocols illustrated by photographs of lesions at *post-mortem* examination. Sub-sections deal with genital tuberculosis, congenital tuberculosis, tuberculosis of the udder, infection with avian and human tuberculosis, and tuberculosis in meat inspection.

Other sections of special interest include "Detection of Tuberculous Cattle," with a discussion of the tuberculin test, its reliability and the influence of non-specific sensitisation to tuberculin. This section also deals with clinical and microscopical methods of detection; "Vaccination Against Tuberculosis," and "The Control and Eradication of Bovine Tuberculosis." This last considers the position in this and other countries and includes a note on man as a source of infection for cattle.

The material is presented in very readable style, is well provided with tables and illustrations and contains about 400 references. Each chapter has a summary of the main points discussed in the text and the book devotes a whole chapter to "Summary and Conclusions."

The author is to be congratulated on a unique monograph on a subject of great topical interest. The book can confidently be recommended to all interested in bovine tuberculosis.

Purchase Tax

"The decision of the Treasury to extend the list of essential drugs which are exempt from Purchase Tax is a step towards the mitigation of the heavy burden which this tax imposes upon many who are stricken with illness," writes *Onlooker* in the *Pharmaceutical Journal*, and continues: "It does not, however, strike at the basic principle of whether it is just to levy a tax on essential medicines at all. One weakness of any list of exemptions, however comprehensive it might be, is that it cannot provide for all eventualities. A newly discovered drug may prove to be essential for some specific purpose, but until it is added to the list of exemptions it will be liable to tax. If the list is not revised at frequent intervals—and it is three years since the last additions were made—there are bound to be many anomalies. The reluctance of the Chancellor of the Exchequer to exempt all medicines from tax is undoubtedly because proprietary medicines are still regarded as a lucrative source of revenue; it is difficult, if not impossible, to find a form of words which would differentiate between pharmacopoeial and Codex drugs plus other essential medicines not included in the current volumes of these publications, and the less reputable type of compound proprietary product. Nevertheless, the position is indeed anomalous when we have all the foods exempted from tax, with a new concession in respect of vitamin injections, and yet intravenous injections of dextrose or sodium chloride—both needed as foods for the exsanguinated patient—are liable to 33⅓ per cent. tax."

Questions and Answers

The submission of questions for inclusion in this column will be welcomed: they can relate to any aspect of veterinary work. For purposes of record, each question is numbered, and those submitting questions are required to furnish (not for publication) name and address.

Answers to readers' queries represent exclusively the personal opinions of the writers, and criticism of the replies will be appreciated.

All communications should be addressed to the Editor.

Peritoneal Tympany

Q. CCXXX.—*One sometimes finds, on being asked to examine a cow that is slightly blown, that the tympany is outside the stomach. On pressing the flank there is a gap felt, presumably between the stomach and the overlying muscle layers. Is this the so-called "peritoneal tympany"? What is its significance?*

A.—The condition described *may* be the *so-called* "peritoneal tympany," which is a misnomer. The gap felt is between the wall of the rumen and its contents which, in cases of indigestion with loss of cud, frequently form a hard and somewhat doughy mass. As the condition invariably responds either to the "*vis medicatrix naturae*" or to mild stomachics, it has no special significance.

. . . . . .

Epileptic Fits in a Male Golden Labrador

Q. CCXXXI.—*I have a too-well-bred male Golden Labrador, over 12 years old, apparently in perfect health, which was having an epileptic (or epileptiform) fit every week or ten days, lasting about five minutes. For some years now I have been giving him a small dose of veronal daily and he has had only an occasional fit. But to-day, for no ascertainable reason, he has had three fits within nine hours. Can you suggest any better treatment?*

A.—(1) Attend to the diet. Change the main constituents as much as possible, excluding wheat products and including green vegetables, salt and meat. Modify the suppressive medication by trying other sedative drugs, especially phenobarbitone and mixtures of drugs, particularly phenobarbitone and epanutin.

(2) In view of the importance attached by many to the sedative influence of calcium on the central and peripheral nervous systems, it is well to bear this line of treatment in mind. Calcium should be injected, and better with an activator such as vitamin D, and the whole preparation in a colloidal form suitable for intravenous medication. Alternatively, a good method would be by a preliminary intramuscular injection into each buttock of 2½ c.c. calcium gluconate, followed daily by calc. chloride (10 gr.) in syrup and water, per os. Bowel and kidney action should be increased.

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Correspondence

Distemper Prophylaxis

With reference to Question and Answer CCXXVI,* an American correspondent has written to say that he fully agrees with the answer which was given. He believes that two doses of good vaccine, without the use of live virus, is a good method of immunisation and doubts the efficiency of the Green method of immunisation.

* *Vet. Rec.* **59**. 676.

VETERINARY EDUCATION IN WALES

"There is much talk about establishing a Veterinary College in Wales, and the matter has been discussed at several conferences," states the *Caernarvon Herald* in its issue of February 13th, and continues: "If ever there was need for such a college in Wales it is at present, when so much interest is taken in the development of Welsh livestock. Addressing the Welsh Agricultural Organisation Society on veterinary education in Wales some years ago, Professor Share Jones said that the claim that the Principality should have facilities for veterinary education was unanswerable. The claim was not a new one, he added. In 1913 the subject was dealt with at a conference of M.P.s and local authorities when a scheme was adopted which urged the institution in the University of Wales of further facilities. In 1916, the same scheme was placed before Lord Haldane's Royal Commission on University Education in Wales. It then had the support of more than 100 local authorities. It is not facilities for veterinary education in the University Colleges we want in Wales, but a Veterinary College. If Wales succeeds in this demand, we know of no better centre for such a college than Caernarvon."

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The cattle population in England and Wales dropped 55,000 to just under 7,000,000 in the past year. In Scotland beef cattle increased 24,000. Sheep 8,207,000 (in England and Wales) and 4,886,000 (in Scotland) declined a total of 1,900,000.

QUESTIONS IN PARLIAMENT

Civil Service: Technical Works (Publication)

Mr. Pitman asked the Financial Secretary to the Treasury what rights of appeal are open to a Crown servant if he is denied by the head of his Department consent to the publication of any work the subject matter of which is the technical subject of his specialisation.

Mr. Glenvil Hall: Every civil servant has a right of appeal to the responsible Minister against decisions which affect him. It has not been found necessary to lay down any special appeal procedure to deal with the type of case referred to; nor am I aware that consent in such cases has been unreasonably withheld.

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Scotland: Premium Bull Schemes

Colonel Gomme-Duncan asked the Secretary of State for Scotland why under their respective premium bull schemes the terms for Scotland are less favourable than for England for percentage of purchase price, date of first payment, seasonal grants and total premiums payable.

The Secretary of State for Scotland (Mr. Woodburn): The schemes operated in Scotland and in England and Wales differ in several respects and a straight comparison is difficult. I am, however, aware of the recent modifications of the English scheme and these will be taken fully into account when the Scottish scheme is next reviewed in the autumn of this year.

Colonel Gomme-Duncan: If I send the right hon. Gentleman some figures, will he kindly undertake to go into them, because this matter is giving serious concern in farming circles in Scotland?

Mr. Woodburn: Certainly.

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Agricultural Production (Grassland)

Mr. Randall asked the Minister of Agriculture the total acreage of the better of the permanent grass in England and Wales that could be brought under the plough to provde people with more food this year and to enable dairy farmers and others to maintain a larger livestock population.

Mr. T. Williams: No reliable estimate can be made of the kind suggested by my hon. Friend, but the higher targets set for potatoes, wheat, and other essential crops, are likely to bring more land under the plough. In addition, the grant for ploughing up grassland has been raised from £2 to £4 per acre. The objective of the large expansion campaign launched in August last is to provide more food of all kinds from our own soil. The means to this end must include not only an expansion of tillage, but more intensive methods of production, both of tillage crops and grass.

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Warble Fly Order

Mr. J. Lewis asked the Minister of Agriculture if he will now make a statement regarding the reimposition of the Warble Fly (Dressing of Cattle) Order, 1936.

Mr. T. Williams: I have decided to make an Order requiring all cattle visibly infested with the warble fly maggot to be dressed this year.

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Farm Buildings (Standard Components)

Mr. Collins asked the Minister of Agriculture whether, with a view to the more speedy provision of fixed equipment required for the food production programme, steps have been taken to carry out the recommendation of the Farm Buildings Committee that standard farm buildings should be mass-produced.

Mr. T. Williams: Yes, Sir, I am glad to be able to tell the House that standard designs have been prepared for the main structural components of farm buildings. Arrangements have also been made for the large-scale production of the components. Steel salvaged from Anderson and Morrison shelters will be largely used, thus saving new steel. With these standard components, buildings either 18 ft. or 33 ft. wide can be constructed, 8 ft., 12 ft., or 16 ft. high, and I am confident that they will be suitable for very many farm purposes. The arrangements for distribution provide for delivery within seven days of order. The components should be on sale in May. Licences will, of course, be necessary before the buildings can be erected.

Inspection of Meat

Mr. Dodds-Parker asked the Minister of Health whether his attention has been drawn to the growing number of cases of ptomaine poisoning and other gastric complaints among persons of all ages throughout the country; and to what he attributes the cause.

Mr. Bevan: Yes, Sir, but gastric complaints can have many causes. The increase appears to be due more to so-called gastric influenza, presumably due to infection with unknown viruses, than to food poisoning.

Mr. Dodds-Parker: May I ask the Minister whether he would enquire to what extent this increase is due to the deterioration in meat owing to the laxity of inspection which is the result of bulk purchase?

Mr. Bevan: I consider that a most wicked and frightening insolence which ought not to be made by any responsible member of Parliament without direct evidence. No prima facie case has been established to show that there is any lack of inspection of bulk-purchase meat except the irresponsible statement of the hon. member.

Mr. W. S. Shepherd: Do I understand that the Minister assures the House that the standard of inspection and of rejection of meat is to-day equal to what is was before the war?

Mr. Bevan: Better.

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Circus, Manchester (Incidents)

Mrs. Manning asked the Secretary of State for the Home Department whether his attention has been called to an attack upon four performing lions by a lion tamer named Clem Merk armed with a training fork in a circus at Manchester on January 20th and of the mauling by a performing bear of Merk's assistant, Reginald Robinson, during the same performance; whether he will state the name of the circus owner and order an inspection of the animals concerned and the weapons used by two independent veterinary surgeons; and, if necessary, institute criminal proceedings against those responsible under the Protection of Animals Act, 1911.

Mr. Ede: I am informed that in the first incident a tight rope performer fell into a cage of five lions. Four left the cage on the command of their trainer; the fifth left when the trainer made some flourishes with a training fork. There was no evidence that any of the animals had been touched; an inspector of the R.S.P.C.A. who subsequently saw them found no signs of ill-treatment. In the second case, according to my information, a bear accidentally scratched an assistant; but the injury was so slight that no hospital treatment was needed. There appear to be no grounds for proceedings against the owners of the circus or anyone else; to give their names would serve no useful purpose.

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Universities (Government Grants)

Sir E. Graham-Little asked the Chancellor of the Exchequer if he will now make a statement regarding the grant to universities which he proposes to make in the forthcoming Budget.

Sir S. Cripps: Provision will be made for recurrent grants to universities for general purposes and for medical and dental education on the scales announced by my predecessor in his statement of March 10th, 1947. Since that date, responsibility for aiding agricultural and veterinary education has been assumed by the Treasury, and I shall ask Parliament to provide £232,500 for these purposes. After the present academic year the teaching hospitals will be financed under the National Health Service Act, and the need for Treasury grants to them will cease. Provision for such grants can, therefore, be reduced to £250,000. As regards non-recurrent grants, experience has shown that the rate of expenditure on capital developments was somewhat over-estimated last year and I propose this year to provide £2,000,000 for this purpose. Accordingly, the total amount which Parliament will be asked to vote for 1947-48 is £11,880,000.

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Universities (Expansion)

Mr. Cobb asked the Chancellor of the Exchequer to what extent it has now been found necessary to curtail the plans of the universities for post-war extension, why no reference to this curtailment was made in the recent White Paper on cuts in capital expenditure, and what will be the consequences with regard to the reduced output of scientific man-power.

Sir S. Cripps: No reference was made in the White Paper on Capital Investment in 1948 to any curtailment in the plans for the expansion of the universities because, as my predecessor stated on October 28th last, it was hoped to carry out the programme of capital development to which he referred in March. Shortages of certain materials, particularly steel, may somewhat delay the carrying out of the programme.

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Doctors (Negotiations)

Mr. Lipson asked the Minister of Health if he will now invite representatives of the British Medical Association to meet him so that a further attempt may be made to ensure that the National Health Act will have the co-operation and good will of the doctors when it begins to operate on July 5th.

Mr. Bevan: I remain ready to co-operate closely with any professional spokesmen who want, with me, to make the new Service a success.

Mr. Lipson: Can the Minister go a little further and invite representatives of the doctors to meet him, because, in the interests of the Health Service, all the country wants is a victory for common sense?

Mr. Bevan: We all want a victory for common sense, but I should not be entitled to go behind the back of the House and suggest that Parliament can surrender any position it has taken up.

Sir Henry Morris-Jones: Would the right hon. Gentleman care to make a start towards proper negotiations again by withdrawing a statement which he made about the "raucous voiced" leaders of the British Medical Association, who have now been shown clearly as only interpreting the wishes of their constituents?

Mr. Bevan: It remains to be seen how long they will interpret the wishes of their constituents. The answer to the hon. Member is that, as the Debate last week showed, every concession has been made by the Government. It is now time that concessions were made on the other side.

Lieut.-Colonel Lipton: Will the Minister see that the loyal and gallant minority, of doctors who are willing to co-operate with the Government, is protected against any possible form of intimidation and victimisation?

Mr. Bevan: Certainly.

Mr. Lipson: Is the Minister aware that I am not asking him to go behind the back of Parliament, but to follow up some of the concessions which were suggested, or some of the doors he opened, in his speech in the House, to see if it is possible to resume negotiations?

Mr. Bevan: I am always ready to listen to any fresh representations that may be made to me. I have always been ready to meet the representatives of the medical profession, and am still ready if they have any fresh suggestions to make.

NOTES AND NEWS

Diary of Events

Mar. 1st.—Meeting of the Farmers' Club, at the Royal Empire Society, 2.30 p.m. (Professor G. E. Blackman: "Oil as a Farm Crop.")

Mar. 3rd.—Meeting of the N.V.M.A. Technical Development Committee, at 36, Gordon Square, W.C.1, 11 a.m.

Mar. 4th.—Meetings of the Central Veterinary Society at Camden Town: General meeting, 2 p.m.; Special Meeting, 3.45 p.m.

Mar. 4th.—Meeting of the West of Scotland Division, N.V.M.A., Clinical Club, at the Glasgow Veterinary College, 7.30 p.m.

Mar. 5th.—Annual Meeting of the South Wales Division, N.V.M.A., at Carmarthen (Dolwar Café), 2.15 p.m.

Mar. 5th.—R.V.C. Medical Association: Annual Meeting at Camden Town, 3 p.m.

Mar. 10th and 11th.—Special Meetings of Council, R.C.V.S.

Mar. 25th.—Annual Meeting and Luncheon of the Western Counties Division, N.V.M.A., at Exeter (Rougemont Hotel).

April 7th, 8th, 9th.—N.V.M.A. Committees and Council.

April 14th, 15th and 16th.—Quarterly meetings of Council, R.C.V.S.

Sept. 8th to 15th (inclusive).—N.V.M.A. Congress at Southport.

Congress Hotel List

The terms set out in the list of recommended Hotels and Boarding Houses (see page 104) are those which were ruling at the time the list was compiled.

Owing to the higher wages which have now to be paid to workers in the catering trades and other increased expenses, charges for accommodation are liable to be raised without notice, and no guarantee can be given to members who have not yet booked accommodation that the rates shown in the list still apply.

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Vaccination Against Swine Fever

Members are informed that ample supplies of crystal violet swine fever vaccine are available, and may be obtained from the Ministry of Agriculture's Veterinary Laboratory at New Haw, Weybridge, Surrey.

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"Veterinary Educational Trust" re-named "The Animal Health Trust"

At a meeting of the Trustees and Council of the Veterinary Educational Trust held on Tuesday last, it was decided to change the name of the Trust to that of "The Animal Health Trust." This step has been taken in order to bring the title of the organisation more into line with the breadth of the objects of the Trust, which cover not only assistance to students and others with the motive of improving veterinary education, but also the promotion of veterinary research and the provision of facilities for the practitioner. The change therefore also emphasises the fact that the Trust is organising research stations and will, at a later date, embrace an Animal Hospital and Diagnosis Service.

Mr. G. R. H. Nugent, recently appointed Chairman of the National Farmers' Union's Poultry Committee, has been invited to act as Chairman of the Poultry Research Committee of the Trust.

Latest gifts to the Trust include a further donation of £416 from milk producers in England and Wales, through the Milk Marketing Board; £105 from the Poultry Association of Great Britain and £250 from the Bookmakers' Advisory Committee of the tracks at White City, Harringay and Stamford Bridge.

Uttoxeter Kennel Association has sent ten guineas and Lymm Canine Society two guineas to the canine research appeal of the Trust.

Entries close on March 1st for the Trust's poster competition for which, as indicated in our last issue, artists are being asked to submit suitable subjects with emphasis on "animal health."

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National Health Service Act

Doctors' Emphatic Rejection of Measure and Refusal of Service Thereunder

The result of the doctors' plebiscite on the National Health Service Act, which was made public shortly after we went to press with our last issue, was that 40,814 votes were cast against the Act in its present form and 4,735 for, while general practitioners, consultants and specialists, and whole-time doctors in voluntary hospitals, voted by 25,340 to 4,084 against accepting service under the Act as it stands. Plebiscite forms totalled 55,842 and only 18 per cent. were not completed.

The results of the plebiscite were laid before the Council of the Association at its meeting on February 18th. The Council will pass them—with whatever comments it chooses to make—to a further meeting of the representative body to be held on March 17th. Only the representative meeting can determine the policy of the Association.

An official of the Ministry of Health has reaffirmed that the Act will come into operation on July 5th. It would rest with the individual doctor to decide before then what part he would play in the new arrangements.

The B.M.A. leaders have thus secured the result they sought, though it should be noted that members of the profession were asked only to say whether they approved or disapproved of the Health Act, and of service under it "in its present form." They were not asked to indicate what parts of the Act they wish to see left out or what changes they wish to have made. In this connection, it may be recalled that the profession has four main grievances: refusal of the "right of appeal," cessation of the sale of practices within the service, restriction of entry into the service in areas deemed to be "over-doctored" and, most contentious of all, the payment of a basic salary of £300 a year—regarded by the B.M.A. as opening the door to the possible institution of a whole-time salaried service.

Medical Press Comments

The results of the ballot inevitably require the B.M.A. to make the next move and the *British Medical Journal* writes: "A heavy responsibility now lies upon the British Medical Association—a responsibility not only to the medical profession but to the community generally, which has been given the most exaggerated idea of the medical benefits it has been led to expect when the National Health Service Act comes into operation on July 5th."

The *Lancet* observes: "To the B.M.A. leaders the magnitude of their victory will be a source of strength. We do not yet know just what their objective is, nor how they intend to reach it; but if they wish to avoid needless conflict, and are prepared to enter into negotiations with the Government to that end, the plebiscite gives them a strong position from which to do so. On the other hand, the existence of large belligerent majorities on both sides will not make it easier for negotiators to accept the kind of compromise which the public interest requires."

For ourselves, we would sum up the position by saying that, as we anticipated, the Government are finding that there is a world of difference between nationalising an industry and nationalising a profession with a long and valued tradition of independence.

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Purity of Milk and Other Foods

The Transfer of Functions (Food and Drugs) Order, 1948

The above Order, which will come into operation on March 1st, is the outcome of the official view that it is essential that the Minister of Food and the Minister of Health shall both have a responsibility in relation to matters of composition, purity and hygiene in connection with food as dealt with in the Food and Drugs Act, 1938 and 1944. The Order transfers to the Minister of Health acting jointly with the Minister of Food the powers of the Minister of Health under the Food and Drugs Act, 1938, to make regulations relating to the importation, storage, preparation and sale of food, the composition of bread and flour, the production, distribution and sale of milk, the use of special designations for milk, and prescribing the qualifications of a public analyst. The Order provides that the Minister of Agriculture and Fisheries be joined in the powers of making regulations relating to milk and dairies and to the use of special designations for raw milk when the Food and Drugs (Milk and Dairies) Act, 1944, comes into operation. The Order also transfers to the Minister of Agriculture and Fisheries, the Minister of Health and the Minister of Food acting jointly, the powers of the Minister of Agriculture and Fisheries under the Food and Drugs Act, 1938, to make regulations as to presumptive evidence of adulteration of milk. Certain other administrative functions at present exercisable under the Food and Drugs Act, 1938, by the Minister of Health or, in some cases, by the Minister of Agriculture and Fisheries are also transferred to the Minister of Food by the Order. The duties of enforcement and execution placed by the Act upon local authorities are not affected by the Order.

The Ministry of Food from March 1st next will thus, subject to the exceptions mentioned below, be the Department primarily concerned with, *inter alia*, food inspection and hygiene generally, including the Public Health (Meat) Regulations, 1924 and 1935, and the Public Health (Imported Food) Regulations, 1937; the Milk and Dairies Regulations, 1926-1943, and the Milk (Special Designations) Regulations, 1936-1946, in relation to distributors and to the heat-treatment of milk, including the determination of any appeals against the decisions of local authorities in respect of licences other than producers' licences.

The Ministry of Health will retain the central department's administrative and related interests under the Acts in the following subjects among others:—the composition and description of drugs; matters arising out of Sections 17 and 18 relating to food poisoning; the Milk and Dairies Regulations, so far as they relate to the control of milk infected with disease; and the Public Health (Imported Milk) Regulations, 1926. Temporarily, also, the Ministry of Health will, until the Food and Drugs (Milk and Dairies) Act, 1944, comes into force, remain the central department concerned with the Milk and Dairies Regulations and the Milk (Special Designations) Regulations so far as they relate to producers, including the granting of any producers' licences to local authorities, and the determination of any appeals against the decisions of local authorities in respect of producers' licences.

No change is made by the present arrangements in Sections 44-56 of the Act relating to markets, and the Ministry of Health will for the time being, remain the central department concerned with Sections 57-63 of the Act relating to slaughterhouses, cold air stores, and knackers' yards.

Broadly, the effect of the transfer will be that the Ministry of Food will be concerned with the composition, description and inspection of foods, while the Ministry of Health will continue to be concerned in measures for dealing with infected food or food poisoning.

None of the changes involved in this transfer of functions affects the position in Scotland.

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PERSONAL

Mr. Harbour's Visit to the Antipodes.—Mr. H. E. Harbour, of the Cooper Technical Bureau, left London on February 24th for a tour in Australia and New Zealand, where he is to study local conditions of sheep husbandry and methods of control of parasitic diseases.

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At the Séance of January 21st, 1948, Dr. John Russell Greig was elected *Correspondant Etranger de l'Académie d'Agriculture de France* in place of the late Sir John M'Fadyean.

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R.C.V.S. OBITUARY

Barber, Elizabeth (Miss), Royal Veterinary College, Camden Town, N.W.1. Graduated London, July 4th, 1945. Died February 18th, 1948.

Funeral of the Late Capt. J. H. Stewart

The funeral service for the late Capt. J. H. Stewart, M.C., M.R.C.V.S., Neville Street, Cardiff, whose death we recorded with much regret in our last issue, was conducted on Wednesday, February 18th, at St. John's Church, Canton, Cardiff, by the Rev. J. R. Lloyd Thomas, assisted by the Rev. H. G. B. Hopkins. The service at St. Mellon's Churchyard was conducted by the Rev. Connop Price, assisted by the Rev. Lloyd Thomas.

The chief mourners were Messrs. David Hamilton Stewart (son), A. M. Stewart (brother), D. M. McClennan, Brinley Williams, Victor Harding (brothers-in-law), James Roberts (uncle), A. P. O. Stewart, John Harding and Walter Court (nephews).

The veterinary profession was represented by Capt. W. J. Leyshon, divisional inspector, Animal Health Division, Ministry of Agriculture and Fisheries; Messrs. J. H. M. Hughes, veterinary officer, Cardiff Corporation; Reg. W. Hall, representing the South Wales Division of the N.V.M.A.; Capt. J. M. Brown, Cowbridge; Capt. L. A. Watson and David Llewellyn, Cardiff.

Also present were Messrs. Joseph Jones, chief Constable of Glamorgan; Talford Williams, president of the Glamorgan County Farmers' Union; representative agriculturalists and members of canine societies.

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Practice of "Vivisection"

On Monday last the Home Secretary, Mr. Chuter Ede, told a deputation from leading anti-vivisection societies that he would consider their suggestion for the appointment of a Royal Commission to enquire into the practice of present-day vivisection.

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LEGAL NOTES

Sulphathiazole Patent Revoked

Pharmaceutical Comment on Judgment: The Public Interest

The decision of Mr. Justice Jenkins, after a 17 days' hearing in the Chancery Division of the High Court, to revoke the patent which protects the process of manufacturing sulphathiazole, is the subject of the following comment in the issue of *The Pharmaceutical Journal* of February 7th.

As a result of the judgment and subject to the possibility of a reversal of the decision, if an appeal is lodged, the effect is that the patentees will no longer enjoy the right to enforce the protection for their invention which had been previously granted to them. The process of the patent will then become public property and not only the petitioners but anyone else who so desires will be at liberty to manufacture and sell in this country sulphathiazole and any other substance made by that process without liability to respect the presumptive rights formerly held by the patentees. It is, of course, only the British patent which is the subject of the order for revocation. The patentees are still entitled to enforce the protection granted to them in other countries, under the laws there prevailing, by any corresponding patents which they may there have been granted.

The immediate position, therefore, subject to the judgment being final, is that sulphathiazole may be manufactured and sold in this country without having to carry in its cost any charges for the research work which led to its discovery since competitive production will preclude the possibility of such charges being recovered. While many will consider that public interest has been well served by action being taken to make the process of manufacture of so valuable a medicinal substance as sulphathiazole public property, there is another point of view which might be examined. Members of the public benefit from the discoveries which result from research carried out in industrial organisations, and these have to depend for financial resources for further research upon the limited monopoly granted to them by the Patents and Designs Act. Much costly and unsuccessful research has to be undertaken to secure the possibility of occasional successes. It may therefore be a matter for consideration as to how the public interest in the long run is best served—whether by research efforts being devoted to making still further discoveries, especially of substances of medicinal value, or by research effort being directed to secure that such discoveries as others may make shall become public property and not retain such patent protection as may have been secured for them.

In this country, in contrast to the position in the U.S.A., chemical products as such cannot secure patent protection. British patents are granted only for processes of manufacture, and the patent under discussion gave no proprietary rights to the patentees for sulphathiazole as such but only for a process by which it can be made. The patent has been held invalid, on the evidence of the petitioners that the claims as drawn by the patentees for the process were wider than could be sustained in the light of the petitioners' subsequent study of the process. It must be remembered that discoveries such as sulphathiazole cannot be retained as secret while chemical research and development work are carried out to ensure formulation of claims that will withstand attack in the Courts throughout the life of any patent that might be secured. If any protection is to result it must therefore be sought at the earliest moment, and it has often been pointed out that the period allowed, namely, twelve months from the date of filing a provisional specification, may be insufficient for the amount of experimental work frequently required for the formulation of claims, which while being adequate to cover the invention resulting from the discovery, are at the same time no wider than can be defended successfully in the courts. In the present case it was shown by the petitioners that the process as claimed did not result in chemotherapeutically useful substances being obtained when applied to some of the reactants embodied in the claims.

An application made at the same time by the patentees for leave to amend the specification in order to restrict the process claimed to the preparation of sulphathiazole and the 4-methylthiazole derivative, was refused by Mr. Justice Jenkins on the grounds that the invention would then become a different one from that of the original specification. This judgment once again emphasises the extreme care that is required in drawing up patent claims for chemical processes and serves as a reminder that however meritorious a discovery such as sulphathiazole may be, rights to any resultant invention can only be upheld in the Courts if the invention is "particularly described and ascertained" in the specification filed.

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Photo Exhibits in "Tuberculous Emaciation" Case.—Photographs stated to be the first of their kind to be shown as evidence in a police court were produced at Pontardawe recently when Ivor Morgan, a Swansea Valley farmer, pleaded not guilty to failing to notify the police or a veterinary surgeon that he had in his possession a cow alleged to be affected with tuberculous emaciation.

Mr. E. J. Turner, for the prosecution, said that the animal was sent to Neath slaughterhouse on October 28th and when the carcase was examined the following day it was found to be in an advanced stage of tuberculosis.

Police-inspector Charles Davies, Neath, gave evidence of visiting the slaughterhouse on October 31st and of photographs being taken which showed the carcase to be badly affected.

For the defence, Mr. D. R. James maintained that the carcase was not that of the animal sent to the market by Morgan.

A fine of £10, with £1 13s. costs, was imposed.

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AN INTER-COLLEGE "MINIATURE OLYMPIAD"

We are indebted to Mr. R. C. Fox, Hon. Treasurer of the London College R.F.C., for the following account of a unique inter-College "Miniature Olympiad" between the Royal Veterinary College of Ireland and the Royal Veterinary College, London.

Early on Friday morning, February 13th, 36 Irish students constituting their rugby, soccer and boxing teams, arrived to be entertained for the rest of the week-end by the R.V.C. Clubs.

After a tour of the College at Camden Town the boxing match took place in the Great Hall, at 7 o'clock. In all there were eight contests at the various weights over three, two minute rounds. The Irishmen deservedly won by five contests to London's three—their superior stamina was marked, probably due to the existence of beef-steaks in Ireland! One of the best bouts of the evening was between S. C. Tanner, of London, and D. Jennings, of Dublin, the former winning on points; both punched very hard and took a great deal of punishment. Among the numerous guests was Professor Wooldridge who initiated the fixture many years ago.

The soccer match was held at Motspur Park on the following morning. It was an extremely fast and open game, Dublin defeating London by five goals to one. After 25 minutes' play in which defensive work by both sides kept the ball in mid-field, the Irishmen were rewarded by three goals in quick succession. These were almost immediately followed by London's single goal scored by P. Jacques. In the second half Dublin scored again but then had an anxious half-hour as London did everything but score. With only ten minutes to play Noel Keenan, the Dublin captain, scored to make it 5—1 in Ireland's favour.

The rugger match was held on the Old Rutlishian's ground, Merton Park. This match was London's one triumph, regaining for them, by six points to three, the Wooldridge Challenge Cup, previously held by Dublin. It was a clean game fluctuating from end to end as both sides played with great determination. In the first ten minutes the Irishmen were unlucky not to score, then a forward rush took the Londoners into the Irish half where they were rewarded by a superb penalty kick by M. Harries from 30 yards out. The Irish boys replied immediately by a try scored by McGee; thus at half time the score was three all. In the second half the play was equally furious and after 20 minutes' play H. Rees, London's left wing, made a very good run, passing for Vaughan to score between the posts, with other London men backing up. The referee was Dr. Richards, of Reading University.

The afternoon was spent at Twickenham where the delighted Irishmen saw their home side win by 11 points to 10.

That evening all 70 players attended a dinner held in honour of the Dublin teams at the Royal Hotel. J. C. Greatorex, Esq., M.R.C.V.S., presided and guests included Professor McCunn, Dr. Harvey and T. F. Burns, Esq., M.R.C.V.S., of Dublin.

We would like to take this opportunity of thanking the Irish lads for such enjoyable games and express our heartfelt wishes that they will be as good next year when we hope to be their guests at the Veterinary College of Ireland.

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BRITISH HORSE SOCIETY

First Meeting of Council

A representative gathering of members representing light and heavy breeds of horses was present at the first Council meeting of the newly formed British Horse Society (the result of the amalgamation of the Institute of the Horse and the National Horse Association of Great Britain).

President.—The proposal of Colonel Williams that Mr. W. J. Cumber, the well-known past President of the Shire Horse Society, be elected President until the next Annual Meeting of Members, was unanimously adopted. The question of a President-Elect was deferred until this should have been considered by the Executive Committee.

Executive Committee.—Under the Articles, this was to consist of six members from the two Societies now amalgamated, and the following were unanimously elected: Colonel the Hon. C. Guy Cubitt, Chairman; Major H. F. Faudel-Phillips, Vice-Chairman; Colonel V. D. S. Williams; Lt.-Colonel Sir Archibald Weigall; Mr. Nigel C. Colman; Colonel Trevor Horn; Colonel George de Chair; Colonel P. Gell; Mr. Charles Cornell; Mr. Sanders Watney; Mr. J. R. Hindley; Mr. Henry Wynmalen.

Pony Club.—Colonel Cubitt was re-elected as Chairman of the Pony Club. The Secretary reported that there were 171 branches of the Pony Club, with others in the process of being formed. The new Society now had a film library of 43 reels.

Finance.—The Treasurers submitted to the Council the approximate financial position and this will, in due course, be conveyed to the members, when the accounts for the two Societies have been audited. The Council hoped that all members of both the Societies now merged in the amalgamated British Horse Society would be continuing their membership, thereby making the membership some 6,000 adults with about 17,000 children in the Pony Club.

Officials.—Mr. R. A. Brown, the late Secretary of the National Horse Association for 23 years, and organiser of 21 Regent's Park Van Horse Parades, was unanimously elected Secretary. Commander Christopher Powell was appointed the Parliamentary Agent.

Municipal Bills.—The Parliamentary Agent reported that a large number of Municipal Bills had been presented to Parliament, and had been carefully examined for points concerning horses. A number contained clauses dealing with the use of grass margins, but in all cases this is in the form agreed to by the National Horse Association several years ago, and only prevents horses from being ridden or led on grass margins when they are sown or maintained in an ornamental condition by the Corporation, and a notice is put up to that effect. Several Bills also contain a clause enabling Corporations to make by-laws to secure proper ventilation and lighting of stables. No objection had been raised.

Olympic Games.—Considerable discussion took place as to the Equestrian events at the coming Olympic Games. It was reported that the Féderation Equestre Internationale and the British Olympic Association had both recognised this new Society as the authority entirely responsible for the organisation of the Equestrian events of the Olympic Games and the selection of the teams to represent this country. Representatives of the F.E.I. had visited the sites selected for the Jumping, Dressage and Three-day events, and approved all the arrangements already made by Brigadier Bowden Smith, Colonel Williams and Mr. Wynmalen on behalf of the Society.

The British Show Jumping Association had been asked to co-operate by selecting the team for the Jumping event (Prix des Nations), which would be held at Wembley on August 14th, and they had also kindly volunteered to assist by making the arrangements for this International competition. This would, therefore, mean that the new Society would only have to face the responsibilities connected with the Dressage Competition on the Monday and Tuesday, August 9th and 10th, and the Three-day event on the following three days. Considerable discussion took place as to entering a team for this latter competition and it was agreed that though it would be a very expensive proposition to train and enter a team for the event, every effort should be made to see that England was represented. It would be necessary to train both riders and horses for at least six months if the British team was to give a good showing in this very strenuous competition, which not only comprises Dressage and Show Jumping, but also involves a 21 mile course over all types of country. Various members of the Council were asked to undertake tasks in connection with the staging of the three competitions and the selection and training of the two teams, which, it is hoped, will represent this country in the coming Games.

* * * * *

ROYAL SOCIETY SCIENTIFIC INFORMATION CONFERENCE

Arising out of the Royal Society Empire Scientific Conference and the British Commonwealth Scientific Official Conference the Council of the Royal Society has decided to arrange a Conference on Scientific Information Services. The Conference will take place from June 21st to July 2nd, 1948, in London and will be attended by representatives of countries providing information services in English, namely the countries of the British Commonwealth and the United States of America.

The Conference, which will consider information services from the point of view of the scientific user, will meet in four sections; each section dealing with a major branch of the subject. In scope it is proposed to include all scientific subjects embracing the agricultural, medical and engineering sciences.

The organising Committee for the Conference has decided to invite four of its members to act as editors-in-chief of the sections. These editors-in-chief have been asked to prepare a series of memoranda which will be available to the delegates before the Conference and will serve as a basis of discussion at the Conference. A preliminary agenda of the Conference has also been sent to the overseas countries of the Commonwealth where the delegates have been invited to collect opinions from scientists in these countries.

The sections and the names of the editors-in-chief are as follows:—

Section 1 Publication and Distribution of Papers reporting Original Work.

(*a*) Method of presentation of scientific work for publication.

(*b*) Form and scope of publication of scientific papers.

(*c*) Distribution of scientific papers.

Editor-in-chief—Professor J. D. Bernal, F.R.S.

Section 2 Abstracting Services.

(*a*) Scope of existing abstracting services.

(*b*) Nature of abstracts.

(*c*) Distribution of abstracts.

Editor-in-chief—Sir David Chadwick.

Section 3 Indexing and other Library Services.

(*a*) Methods of classification, indexing, citation and terminology (including use of abstract indices for Libraries).

(*b*) Cataloguing. Publication of an International Catalogue of Scientific Literature.

(*c*) Microfilming and other documentary photography.

(*d*) Mechanical selection devices, etc.

(*e*) Guides to Information Services in industry, government establishments, etc.

(*f*) Translation services.

(*g*) Data tables.

Editor-in-chief—Dr. J. E. Holmstrom.

Section 4 Reviews, Annual Reports, etc.

(*a*) Occasional or periodical reviews of special branches of science, both for the specialist and the general scientific reader.

(*b*) Annual reports on progress of various branches of science.

Editor-in-chief—Professor H. Munro Fox, F.R.S.

As it is desired to make available to the editors-in-chief as much relevant material as possible so that it may be considered for discussion at the Conference any contributions which scientists and others may wish to make should be communicated as soon as possible and not later than March 15th, 1948, to the appropriate editor-in-chief, c/o The Assistant Secretary, The Royal Society, Burlington House, London, W.1. Since it is desired to make the results of the Conference of as practical a character as possible, it is suggested that contributors should emphasise in particular the practical steps that should be taken to implement their suggestions including the provision of finance and the requisite personnel.

Invitations to the Conference are being issued by the Royal Society and admission to the Conference will be by ticket only, but organisations and individuals interested can make application in writing for tickets to the Assistant Secretary of the Royal Society before June 1st, 1948. Such applications will be sympathetically considered within the limits of available accommodation.

The membership of the organising Committee is as follows: Sir Edward Salisbury and Sir Alfred Egerton, *Joint Chairmen*. Professor E. N. de C. Andrade, Professor J. D. Bernal, Dr. L. G. Brazier, Sir David Chadwick, Mr. F. P. Dunn, Professor H. Munro Fox, Dr. W. L. Francis, Dr. J. E. Holmstrom, Dr. A. King, Dr. L. H. Lampitt, Sir Clifford Paterson and Professor Samson Wright, with Dr. D. C. Martin, Assistant Secretary of the Royal Society, as Secretary to the Committee.

* * * * *

TECHNICAL COLLEGES

Mr. George Tomlinson, the Minister of Education, recently received a deputation from the Parliamentary and Scientific Committee to discuss the Committee's recent report on colleges of technology and technological man-power. The report recommended that the status of technical colleges should be raised to increase the number of scientists in the country.

Mr. Tomlinson claimed that in general the views expressed in the report coincided with those of the Ministry and he hoped useful progress would be made.

The deputation comprised Mr. Philips Price, M.P., Mr. W. T Wells, M.P., Mr. H. Linstead, M.P., Mr. I. Pitman, M.P., Dr. T. J Drakeley (Association of Technical Institutions), Dr. W. R. Wooldridge (National Veterinary Medical Association), Mr. Cecil Dixon (Association of Scientific Workers), Dr. J. R. Scott (Research Association of Rubber Manufacturers), Dr. H. R. Lang (Institute of Physics), and Commander C. Powell (Secretary to the Committee).

* * * * *

ANIMAL BEHAVIOUR WHILST GRAZING

In his recent address to the Farmers' Club on the subject of pasture management, Professor D. B. Johnstone-Wallace, of the New York State College of Agriculture, Cornell University, made some interesting observations on the behaviour of the animal whilst grazing—a matter which has an important bearing on the amount of meat or milk produced.

Describing animal behaviour as a field of study which has received remarkably little attention in the past, but as one which is now being encouraged by the establishment of an Institute of Animal Behaviour, Professor Johnstone-Wallace continued:—

"In the early days of the war one of my graduate students at Cornell University, W. K. Kennedy, was assigned the task of determining the behaviour of Aberdeen Angus and Hereford beef cows continuously on pasture and receiving no supplementary feed. The procedure followed was to station the observer in the field at 8 a.m. with instructions to record the behaviour of one animal selected from the herd for a continuous period of 24 hours. This procedure was repeated with other animals on other days so that a record indicating average behaviour could be obtained.

"The results stated briefly were as follows:—

1. Time spent in grazing. The average grazing time was seven hours and 32 minutes, of which four hours and 52 minutes were spent in actual eating, and the balance in walking and selecting herbage during the process of grazing. During the hours of darkness the cattle grazed for two hours and 28 minutes.

2. The distance travelled. A map was prepared on graph paper showing the path travelled by the cow during a continuous period of 24 hours. This showed that in a pasture containing six acres the cow travelled 2·45 miles, of which 1·96 miles were during daylight and 0·49 hours during darkness.

3. Time spent in resting and chewing the cud. The cows lay down for eleven hours and 39 minutes, but this was divided into nine periods ranging from less than one hour to more than six hours. The time spent in chewing the cud averaged six hours and 51 minutes.

4. Time spent in nursing calf. The calves which were about three months old were suckled three times a day at intervals of eight hours, and for 15 minutes at a time.

5. Deposition of faeces and urine. Droppings were deposited on an average twelve times a day and urine nine times.

6. Drinking. Under the conditions prevailing, the cows drank water once a day only. This may be accounted for by the luxuriant pasture herbage consisting of Kentucky bluegrass and wild white clover with an average waste content of 72 per cent.

7. Herbage consumed per day. This is best shown in the following table:—

Condition of Herbage.	Available Herbage		Herbage Consumed	
	Green lb.	Dry lb.	Green lb.	Dry lb.
Sward four to five inches in height	4,500	1,000	150	32
Sward after a few days grazing	2,200	500	90	20
Sward after further period of grazing	1,100	250	45	10
Sward ten to twelve inches in height	5,000	1,200	70	20

"The interesting and important fact should be noticed that the cows showed no inclination to extend the grazing period beyond eight hours even when the amount of herbage consumed fell to 45 pounds a day. It is evident that a mechanical factor is involved in grazing management and that one of the basic principles of good pasture management is to provide the livestock with pastures in a condition which will permit them to gather the optimum amount of food within a normal period of eight hours grazing.

"We may speculate upon the potential productivity of British pastures if we ever achieve a degree of efficiency in grazing management which will permit mature cattle to consume daily the normal maximum of about 150 lb. of green herbage. This should be sufficient for maintenance and the production of about 50 lb. of milk or possibly for the production of 5 lb. live-weight increase daily. At present we are falling far short of this achievement."

* * * * *

ADDRESSES OF DISEASE-INFECTED PREMISES

The list given below indicates, first, the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

SWINE FEVER:

Brecon.—Cefn Coed Farm, Lower Cwmtwrch, Swansea, Glam. (Feb. 23rd).

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the N.V.M.A.

Correspondents should write as briefly as possible and letters should not exceed 350 words.

"A NEW VIRUS DISEASE OF DOGS"

Sir,—We have followed with great interest the correspondence under the above heading but have hesitated to join in because our work on some of the conditions confused with true distemper is incomplete. Since one of us (R.F.M.) stated our conviction that an infectious encephalitis distinct from that caused by distemper

virus did exist in Britain (N.V.M.A. Annual Congress, September, 1946), we have had an enormous amount of material put at our disposal by practitioners. Our investigations are being written up for publication but it may be helpful if we state some tentative conclusions.

Prior to 1944 we investigated many cases clinically diagnosed as distemper. Encephalitis was relatively rare but where it did occur in association with a virus infection demonstrable by ferret inoculation the histological picture showed intense destruction of nerve cells but no inflammatory change. This is the picture described by Laidlaw & Dunkin and the virus isolated was of the standard type. Where there was an inflammatory encephalitis, the ferret test for virus was negative.

Since 1944 cases have occurred with increasing frequency in which there is an inflammatory encephalitis corresponding to the descriptions of "nervous distemper" given by continental and American workers. Material from these infected ferrets with a disease somewhat different from that caused by the Laidlaw-Dunkin virus.

In the autumn of 1946 Dr. Margret Scheitlin of Zurich, on a visit to these laboratories, described a hardening of the foot pads which she had observed in cases which later showed the symptoms of encephalitis. We were able to confirm this occurrence of hard pads in cases of the type described in the preceding paragraph; and practitioners to whom we pointed out this remarkable circumstance have found, and presented us with, many such cases. The condition is a hyperkeratosis, and has occurred in many ferrets infected from these cases.

We now recognise a condition which we have tentatively called "hard pad disease." It is different from classical distemper caused by the Laidlaw-Dunkin virus, and we did not observe it prior to 1944. It has now assumed epizootic proportions. The early symptoms are a catarrhal condition usually associated with fever of an irregular intermittent type quite distinct from the diphasic temperature reaction of Laidlaw-Dunkin virus infection. Some cases have little fever; the temperature may be even subnormal. Persistent diarrhoea is common and hardening of the pads may make its appearance within one week. We have seen pads that felt soft but showed hyperkeratosis histologically. Symptoms of brain involvement appear early in the disease as a rule and may be the first obvious sign of illness.

Histologically there is a demyelinating encephalitis with swelling and proliferation of the vascular endothelium and intranuclear inclusion bodies in glia, histiocytes and ependyma; the pads show hyperkeratosis and great thickening of the horny layer. A full description of the pathological picture can await a detailed publication.

It is noteworthy that the injection of anti-distemper serum, even in very large doses, has been of no value in the prevention and treatment of this "hard pad disease." While transmission experiments are far from complete, dogs bred in a distemper-free environment have proved susceptible to the Laidlaw-Dunkin virus after they had recovered from a thermal reaction following the injection of "hard pad" virus. While attempts at transmission have apparently been successful in that a temperature response has been obtained, the injection of material from natural cases, into dogs, by a variety of routes, has rarely produced hyperkeratosis of the pads, and never encephalitis. It would appear that some additional factor is responsible for these symptoms. In fact, we have seen what appear to be instances of this infection in kennels where the nutritional standard was high; then, despite the occurrence of hard pads, the incidence of encephalitis was low.

We would emphasise that this "hard pad disease" is not the only encephalitis of dogs which we have seen during these observations; but it appears to be the one which is most widespread, and causing most concern, at the moment. It is noteworthy that it apparently differs from the "hard paw" condition described by Mr. Lustig-Lendva, in that we have not seen inclusions in nerve cells, despite long search; the inclusions which we have observed are in the nuclei of the glia, ependyma and meningeal endothelium. Furthermore, inflammatory changes are always present and sometimes extensive in "hard pad" encephalitis. Typically they involve the cerebellum. The pad lesion is a thickening of the horny layer and not of the subcutaneous tissue. It would appear, then, that there are various encephalitic conditions which, clinically, can be confused with distemper encephalitis.

We are, Sir,
Yours faithfully,

A. B. MacIntyre.
D. J. Trevan.
R. F. Montgomerie.

The Wellcome Physiological Research Laboratories,
Langley Court,
Beckenham, Kent.

February 18th, 1948.

CANINE HYSTERIA AND AGENISED FLOUR

Sir,—We have recently had the opportunity for the first time of being present when Sir Edward Mellanby exhibited his film entitled "Canine Hysteria." In view of the prominence which has been given in the medical Press (Editorials, *B.M.J.* (1946.) *ii*, 903; *Lancet*, (1948.) *i*, 27) to Sir Edward's reports on the role of agenised flour and wheat products in the causation of canine hysteria (*B.M.J.* (1946.) *ii*, 885; *B.M.J.* (1947.) *ii*, 288) and the widespread deductions concerning the importance of agenised flours in the aetiology of canine hysteria, which have been based on these reports, we feel that, as clinicians closely concerned with canine disorders in our professional duties, the attention of your readers should be drawn to certain matters relating to the diagnosis.

1. In several cases shown in the film the clinical signs were not typical of the condition which we have recognised clinically as canine hysteria for many years.

2. The disorder was not similar to the form of canine hysteria that we observed in the London area and the provinces during the war years, when it was markedly less common than formerly.

3. In particular certain animals appeared to exhibit neurological signs, such as severe clonic choreic movements of the jaws and head, complete loss of vision, inco-ordination of gait and hyperflexion of the hind limbs, strongly suggestive of localised nervous defects, which are more usually associated with the infective encephalomyelitides, and are certainly not seen in natural cases of uncomplicated canine hysteria. Furthermore, in the naturally occurring disease the severe epileptiform convulsion is not a common feature.

If the film is truly representative of the syndrome that Sir Edward observed—and we can only suppose that it is so—then there would appear to be grave doubts as to the precise nature of the disorder that Sir Edward was observing, and indeed whether it was in fact a single aetiological entity.

While this possibility does not detract from the interest in the action of the agene process on wheat proteins, we would suggest that the term "canine hysteria" should not be applied to this condition until the disorder has been investigated more fully. For the present, therefore, perhaps the term "agene intoxication" might be a more suitable diagnosis for the disorder produced by feeding agenised proteins to dogs.

We are, Sir,
Yours faithfully,

M. Harvey Clark, M.R.C.V.S.
Joan O. Joshua, M.R.C.V.S.
S. F. J. Hodgman, M.R.C.V.S.
Herbert Parry, B.A., M.R.C.V.S.
Olga Uvarov, M.R.C.V.S.

February 16th, 1948.

DISEASES OF ANIMALS ACTS, 1894 TO 1937, AND AGRICULTURE ACT, 1937 (PART IV).

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period	Anthrax	Foot-and-mouth	Fowl Pest	Parasitic Mange*	Sheep Scab	Swine Fever
Jan. 16th to 31st, 1948	3	—	17	—	4	1
Corresponding period in—						
1947	4	21	—	—	8	—
1946	6	9	—	2	6	29
1945	4	15	—	—	1	41
Jan. 1st to Jan. 31st, '48	6	—	54	—	10	3
Corresponding period in—						
1947	5	41	—	—	12	2
1946	15	13	—	3	9	48
1945	13	23	—	1	8	87

Tuberculosis (Attested Herds) Schemes

The number of Attested Herds, *i.e.*, herds officially certified as free from Tuberculosis as at January 31st, 1948, was as follows:—

England	Wales	Scotland	Total (Great Britain)
9,660	11,203	10,054	30,917

N.V.M.A. CONGRESS, 1948

September 8th - 15th (inclusive)

List of Hotels in Southport *

	Charge per Day	
	Full Board	*Bed and Breakfast*
LICENSED HOTELS		
Prince of Wales Hotel, Lord Street, Southport (*Headquarters*) ...	30/-	—
Palace Hotel, Westcliffe Road, Birkdale	25/- to 35/-	—
Bold Hotel, Lord Street, Southport	25/-	16/6
Crown Hotel, Liverpool Road, Birkdale	—	12/6
Queen's Hotel, Promenade, Southport	25/-	—
Scarisbrick Hotel, Lord Street, Southport	25/-	—
	21/- 7 days or over	
CONDITIONALLY LICENSED HOTELS		
Alexandra Hotel, Alexandra Road, Southport	25/-	—
Belle Vue Hotel, Lord Street West, Southport	From 35/-	—
Clifton Hotel, Promenade, Southport	22/6 to 30/-	—
Mornington Hotel, Hoghton Street, Southport	23/6 to 24/6	15/- to 16/-
UNLICENSED HOTELS		
Carlton Hotel, Lord Street, Southport	25/-	—
Gables Private Hotel, Hoghton Street, Southport	21/6 to 23/6	—
Sandringham Hotel, Promenade, Southport	21/- to 25/-	Saturday to Saturday bookings only
Waverley Hotel, Promenade, Southport	25/-	—
PRIVATE HOTELS AND BOARDING HOUSES		
Mrs. E. Bartle, Seafield, 2, Irving Street, Southport	14/6	—
Chantrey House, 7, Albert Road, Southport	18/6	12/6
Easemore Private Hotel, 3, Portland Street, Southport	16/6	11/6
Eyredene, 8, Knowsley Road, Southport	17/6	10/6
Franklyn Hotel, 65-65a, Promenade, Southport...	21/-	—
Mrs. N. D. Holt, Derby House, 6, Knowsley Road, Southport ...	17/6	10/6
Hopefield Private Hotel, 12, Albany Road, Southport	17/6	10/6 Saturday to Saturday bookings only
Messrs. Hulley & Shufflebottom, 31, Leicester Street, Southport ...	17/6	12/6
Ivanhoe Private Hotel, 87, Avondale Road, Southport	15/6	—
Knowsley Private Hotel, 2, Knowsley Road, Southport	17/6	10/6
Marlborough Private Hotel, 9, Church Street, Southport	14/-	10/-
Mr J. W. Matthews, Barrowfield, 37, Leicester Street, Southport ...	18/6	—
Orleans Private Hotel, 8, Lathom Road, Southport	22/6	13/-
Queen's Gate Private Hotel, 49, Queen's Road, Southport	21/-	12/6
Russell Hotel, 56, Promenade, Southport	18/6	12/6
Stafford House, 18, Bank Square, Southport (Mrs. M. W. Howarth)	15/6	10/6
Stella Maris Private Hotel, 25, Promenade, Southport	18/6	12/6
Summerfield Private Hotel, 31, Leicester Street, Southport	17/6	12/6 Saturday to Saturday bookings only
Talbot Private Hotel, Portland Street, Southport	18/6	11/6
Tatley Private Hotel, 83, Manchester Road, Southport	17/6	12/6
Mr. H. Tyson, 39, Bath Street, Southport	15/-	10/6
Willow Bank Private Hotel, 117, Leyland Road, Southport	15/-	10/6 Saturday to Saturday bookings only

* **Members are advised to make reservations by March 25th, otherwise accommodation cannot be guaranteed.**